PROFIBUS COMMUNICATION

CYCLOMIX EXPERT

User manual

TRANSLATION OF THE ORIGINAL MANUAL

IMPORTANT* : *Before assembly and start-up, please read and clearly understand all documents relating to this equipment (professional use only).

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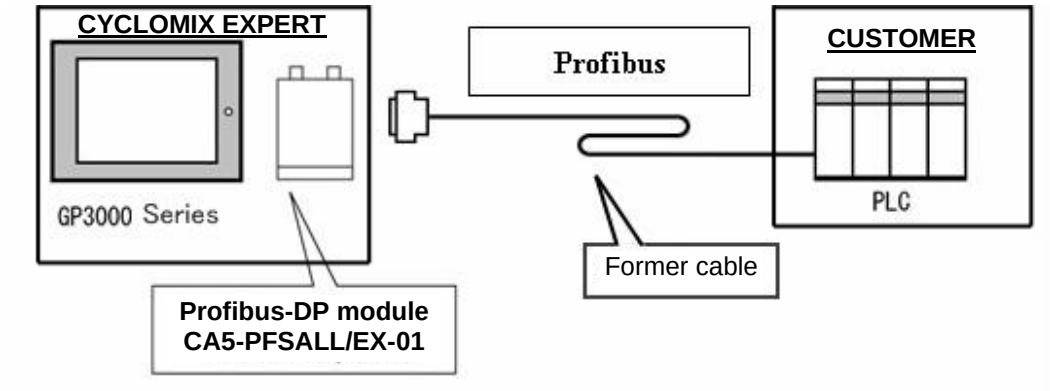
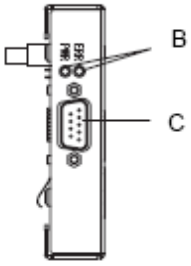
▪ CONNECTIONS



B : Status LED



Side view

LED	Fonction	Couleur
PWR-LED	When power ON, the LED lights	Green
ERR-LED	When a communication error occurs, the LED lights	Red

C : PROFIBUS I/F connectors
For connection to a PROFIBUS lead

▪ DEFINITION OF THE PROFIBUS NETWORK EXCHANGE TABLE

- Use the file *.gsd supplied with the machine ***(refer to the file 'Fieldbus.exe' available on the CD in the documentation part)***
- Define the size of the exchange table :
  Input size of 32 byte (8 bits) -> 16 words (16 bits) for other Profibus devices
  Output size of 8 byte (8 bits) -> 4 words (16 bits) for other Profibus devices
- Default setting address of the Profibus slave : 3

- **IF YOU WANT TO MODIFY OF THE PROFIBUS ADDRESS**

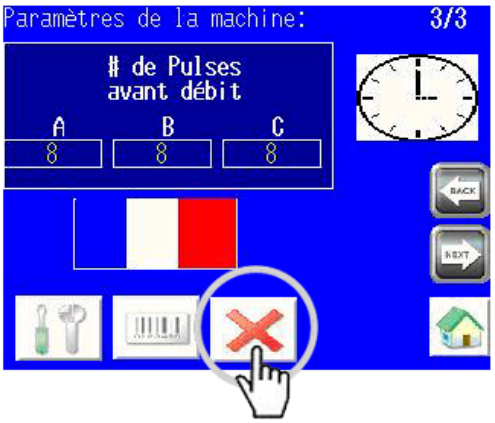
Open the « Machine Parameters » menu to modify the Profibus address :

To access to the « Machine Parameters » menu, click on :

The following display appears :

Enter the 'Maintenance' password [4444] and click on « ENT ».

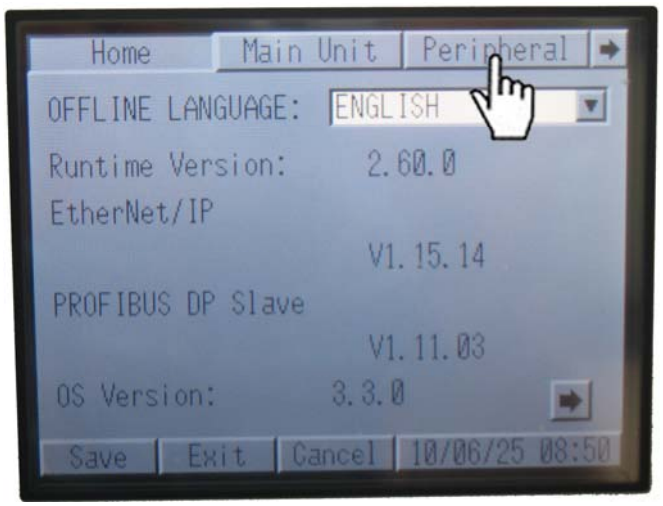
Use the arrow 'NEXT' to access to the 3rd display and click on the cross :



The following display appears :

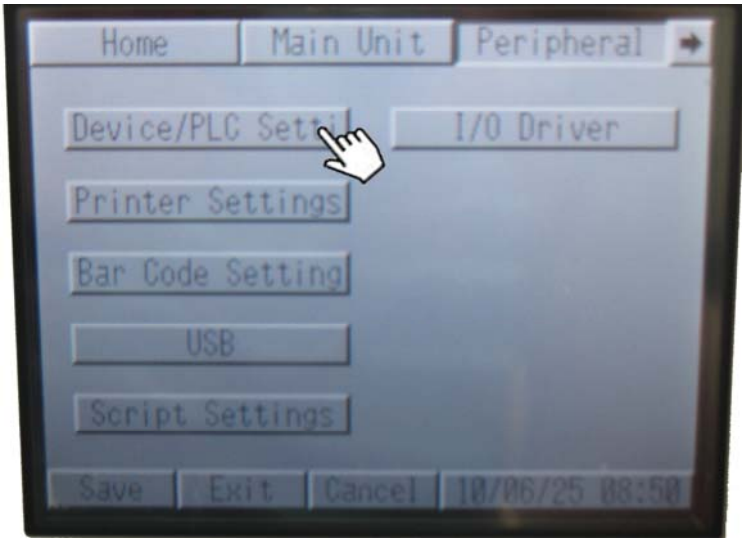
Enter the password [99999] and click on « ENT ».

The following display appears :

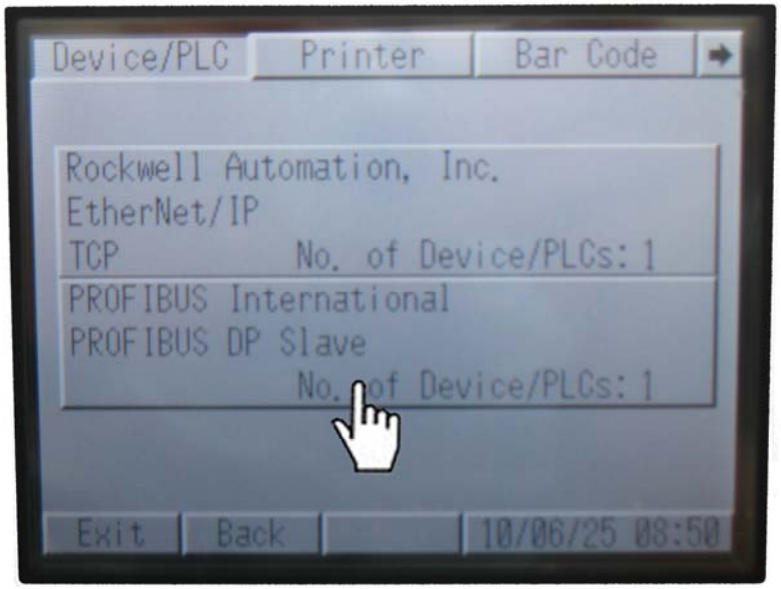


Click on : [Peripheral]

Click on : [Device/PLC Settings] :

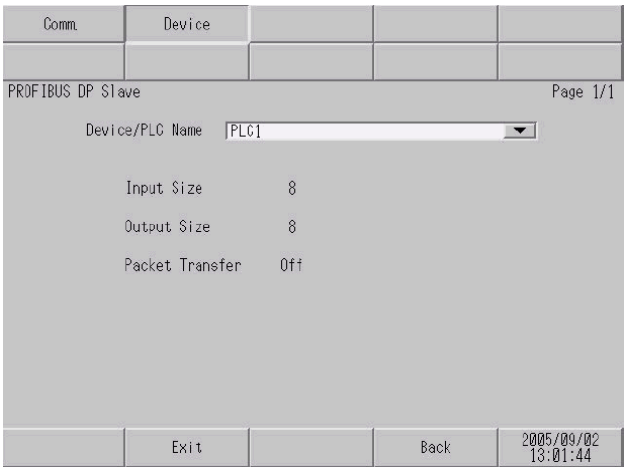


The following display appears :

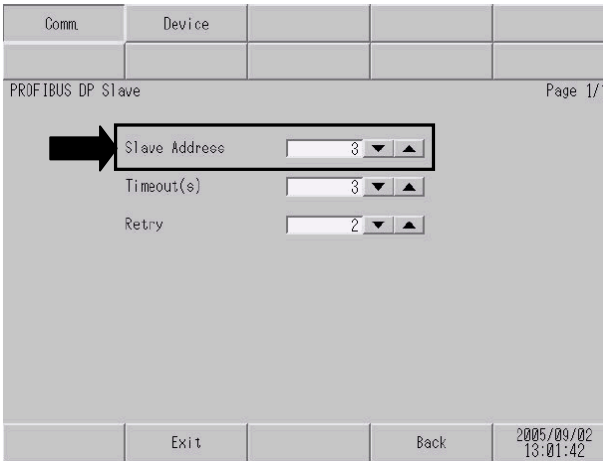


Click on : [Profibus Internartional / Profibus DP Slave]

Click on [Device]. Then touch the external device you want to set from the displayed list ➔ choose PLC2.



Click on [Comm] Then touch the external device you want to set from the displayed list.



Click on « Exit » and then on « Yes » to return to the main menu.

- **SETTING**

Open the « Machine Parameters » menu to set up the ‘Profibus’ communication.

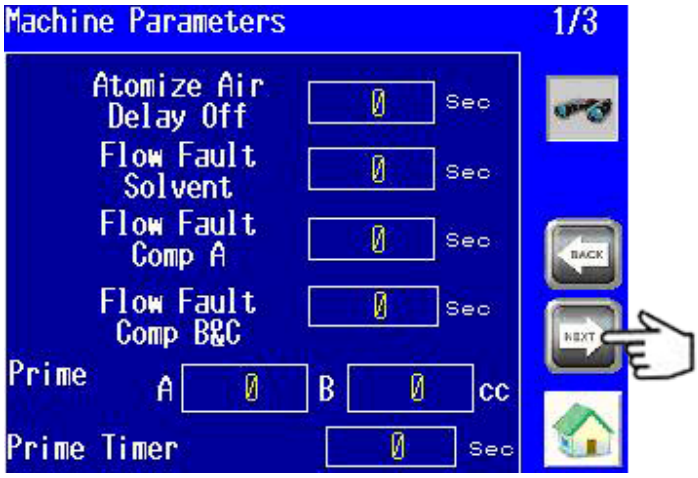
To access to the « Machine Parameters » menu, click on :

The following display appears :

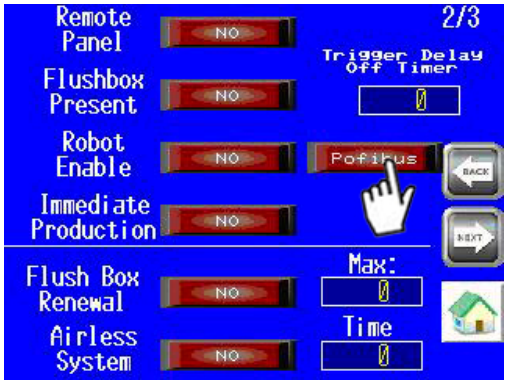
Enter the ‘Maintenance’ password [4444] and click on « ENT ».

The following display appears :

A : click on the arrow ‘NEXT’ to access to the following display :

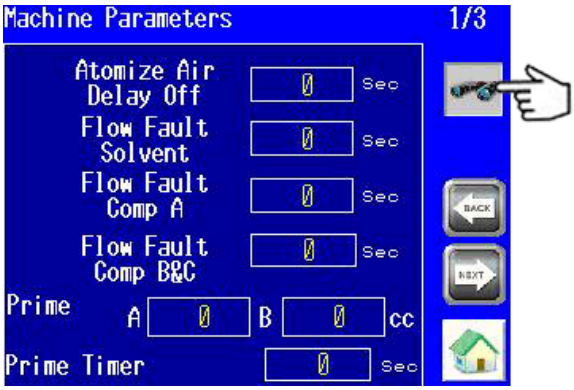


B : Click on Profibus

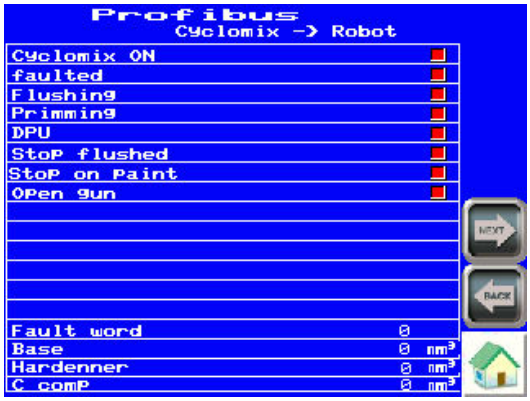


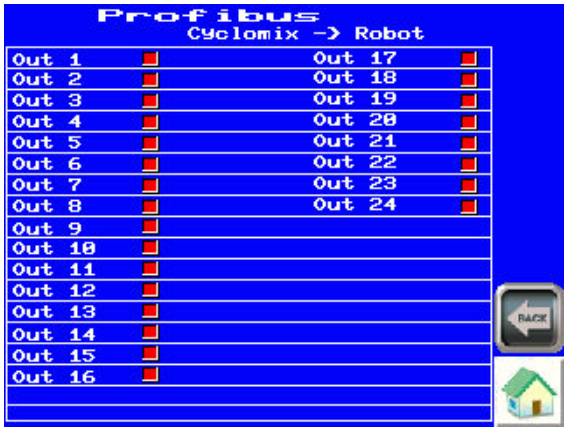
C : Click on the arrow 'BACK'

D : Click on the 'Field glasses' to see the Profibus exchanges :



E : Use the 3 following displays **to see** the Profibus exchanges:





- **ALARMS**

When a communication error on the PROFIBUS network occurs, the following alarm appears on the PROFACE display. Each description is shown below :

Message	Description
No. (PLC2)	Error No.
Device name	Name of the external Device where error occurs.
Error message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the Extrenal Device • IP address is displayed such as« IP address(Decimal) : MAC address(Hax) » • Device address is displayed such as « Address : Device address » • Received error codes are displayed such as « Decimal[Hex] »

Errors' list :

Error No.	Message	Solution
RHxx144	Waiting for PROFIBUS master	Check the master is powered on and the cable is properly connected
RHxx145	Wrong configuration received from PROFIBUS master	Check the input/output settings on the master and slave
RHxx146	Watchdog failed	Check the connection
RHxx147	Unknow error	Restart the system. If error occurs again, please contact customer support.
RHxx148	Wrong parameter datat received form PROFIBUS master	Verify the « User_Prm_Data » with the original GSD file
RHxx128	Profibus Master is not in run MODE OR Packet interpreter programm (FB99) is not running	Check the External Device status and that FB99 is being called
RHxx129	Packet interpreter Programm (FB99) from PLC reports device error (Address :%s)	Check the device with error display
RHxx130	Packet interpreter Programm (FB99) from PLC reports datablock error (Address :%s)	Check the data block size
RHxx131	Packet interpreter Programm (FB99) from PLC reports access error (Address :%s)	You cannot write in the input device. Check the project.
RHxx132	Packet interpreter Programm (FB99) from PLC reports command error (Address :%s)	Restart the system. If error occurs again, please contact customer support.

- **EXCHANGE TABLE : CYCLOMIX ➔ EQUIPEMENT**

Machine status :
Use the bits : BFM0.b0 to : BFM0.b7

BFM 0	b0	Cyclomix Expert is ready for production
BFM 0	b1	Cyclomix Expert is on Fault
BFM 0	b2	Cyclomix Expert is flushing
BFM 0	b3	Cyclomix Expert is priming
BFM 0	b4	Cyclomix Expert reach Potlife
BFM 0	b5	Under solvent, machine stop, flushing completed
BFM 0	b6	Machine stop, full of paint
BFM 0	b7	Open the gun 1(Tip)

manu/robot use status:
Use the bits : BFM2.b0

BFM 2	b0	mode Manu/Robot

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- Default setting address of the Profibus

Material outlet valve status :
Use the bits : BFM0.b8 to : BFM1.b15

BFM 0	b8	Status of Out 1
BFM 0	b9	Status of Out 2
BFM 0	b10	Status of Out 3
BFM 0	b11	Status of Out 4
BFM 0	b12	Status of Out 5
BFM 0	b13	Status of Out 6
BFM 0	b14	Status of Out 7
BFM 0	b15	Status of Out 8
BFM 1	b0	Status of Out 9
BFM 1	b1	Status of Out 10
BFM 1	b2	Status of Out 11
BFM 1	b3	Status of Out 12
BFM 1	b4	Status of Out 13
BFM 1	b5	Status of Out 14
BFM 1	b6	Status of Out 15
BFM 1	b7	Status of Out 16
BFM 1	b8	Status of Out 17
BFM 1	b9	Status of Out 18
BFM 1	b10	Status of Out 19
BFM 1	b11	Status of Out 20
BFM 1	b12	Status of Out 21
BFM 1	b13	Status of Out 22
BFM 1	b14	Status of Out 23
BFM 1	b15	Status of Out 24
Attibution details : cf § « SETTING »		

Alarms' status:
Use the bits: BFM3.b0 to : BFM3.b15

BFM 3	b0	Fault bit	BOOL	30: Ratio A/B Fault – low limit
BFM 3	b1	Fault bit	BOOL	31: Ratio A/B Fault – high limit
BFM 3	b2	Fault bit	BOOL	34: Flow Fault Comp. A side
BFM 3	b3	Fault bit	BOOL	35: Flow Fault Comp. B side
BFM 3	b4	Fault bit	BOOL	37: Solvent flow Fault
BFM 3	b5	Fault bit	BOOL	38: Function stop
BFM 3	b6	Fault bit	BOOL	39: Critical Time Potlife Expired
BFM 3	b7	Fault bit	BOOL	40: Solvent flow Fault – Comp B
BFM 3	b8	Fault bit	BOOL	41: Maximum Flowrate exceeded
BFM 3	b9	Fault bit	BOOL	42: Below minimum Flowrate
BFM 3	b10	Fault bit	BOOL	43: CPU Battery Low – Replace soon !
BFM 3	b11	Fault bit	BOOL	46: Catalyst Injector Leak Detected
BFM 3	b12	Fault bit	BOOL	32: Ration A/C Fault – low limit
BFM 3	b13	Fault bit	BOOL	33: Ration A/C Fault – high limit
BFM 3	b14		BOOL	33: Flow fault Comp. C side
BFM 3	b15		BOOL	47: C Injector Leak Detected

The Warning informs the user that the mixed material should be renewed :

BFM 3	b6	Warning	BOOL	39: Critical Time Potlife Expired

When this bit goes to 1, the user has the programmed duration in ` Critical Time Potlife Expired' to renew the mixed material or to rinse the machine.

Consumptions' status of the current programm :
Use the bits: BFM6 to : BFM12

BFM 6 BFM 7	Base consumption - mm^3	DINT
BFM 8	Free	
BFM 9 BFM 10	Hardener consumption -mm^3	DINT
BFM 11 BFM 12	Comp. C consumption -mm^3	DINT

- **EXCHANGE TABLE : EQUIPEMENT ➔ CYCLOMIX**

Control of the machine : PLC robot ➔ Cyclomix:
(Refer to § 'CYCLE'S DIAGRAM)

BFM0	b0	Start	BOOL
BFM0	b1	Stop	BOOL
BFM0	b2	Production flush	BOOL
BFM0	b3	Week-End flush	BOOL
BFM0	b4	Program selection	BOOL
BFM0	b5	Gun open info	BOOL
BFM0	b6	Fault acknowledgement	BOOL
BFM0	b 7	Free	
BFM0	b 8	Free	
BFM0	b 9	Free	
BFM0	b10	Consumption reset value request	BOOL
BFM0	b11-b15	Free	
BFM1		Free	
BFM2		Program number	INT

- **CYCLE'S DIAGRAM**